

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1-32. (Canceled)

33. (Previously Presented) A method of removing water from natural gas which comprises: bringing the natural gas into contact with a liquid including an absorbent for the water; subjecting the natural gas and liquid to turbulent mixing conditions thereby causing the water to be absorbed by the absorbent; and separating a natural gas phase with reduced water content and a liquid phase including the absorbent and absorbed water; and in which the mixing is conducted in a turbulent contactor including a gas inlet, a liquid inlet, an outlet leading to a venturi passage and a tube extending from the outlet back upstream, the tube being perforated and/or being spaced from the periphery of the outlet.

34. (Previously Presented) A method as claimed Claim 33, in which the tube is located in a vessel, the vessel including the gas inlet, the liquid inlet and the outlet.

35. (Previously Presented) A method as claimed in Claim 34, in which the natural gas is supplied to the tube and the liquid is supplied to the vessel, and so the natural gas stream draws the liquid into the venturi and the two phases are mixed.

36. (Previously Presented) A method as claimed in Claim 34, in which the natural gas is supplied to the vessel and the liquid is supplied to the tube, whereby the natural gas is drawn into the venturi by the liquid and the two phases are mixed.

37. (Previously Presented) A method as claimed in Claim 34, in which the liquid and the natural gas are supplied to the vessel, the liquid being supplied to a level above the level of the outlet, whereby the natural gas is forced out through the outlet via the tube, thereby drawing the liquid into the venturi so that the two phases are mixed.

38. (Previously Presented) A method as claimed in Claim 33, in which the method is carried out as a continuous process with the natural gas and liquid flowing co-currently.

39. (Previously Presented) A method as claimed in Claim 33, in which the natural gas and the liquid are formed into a homogeneous mixture in the contactor, the homogeneous mixture optionally being cooled prior to separation into a gas phase and a liquid phase.

40. (Previously Presented) A method as claimed in Claim 39, in which the homogeneous mixture is separated into a gas phase and a liquid phase in a hydrocyclone.

41. (Previously Presented) A method as claimed in Claim 33, in which the absorbent in the liquid phase is subjected to a regeneration treatment to remove the absorbed water.

42. (Previously Presented) A method as claimed in Claim 41, in which the regenerated absorbent-containing liquid phase is recycled to the contactor.

43. (Previously Presented) A method as claimed in Claim 42, in which the regeneration is carried out by heating and/or by flashing off the absorbed water.

44. (Currently Amended) A method as claimed in Claim 43, in which the post-mixing cooling and the regenerative heating are achieved, at least in part by mutual heat exchange.

45. (Previously Presented) A method as claimed in Claim 33, in which the absorbent is miscible with water.

46. (Previously Presented) A method as claimed in Claim 33, in which the absorbent is immiscible with water.

47. (Previously Presented) A method as claimed in Claim 33, in which the absorbent includes a glycol.

48. (Currently Amended) A method as claimed in Claim 47, in which the absorbent is selected from the group consisting of monoethylene glycol, diethylene glycol, triethylene glycol or a mixture of any of these.

49. (Previously Presented) A method as claimed in Claim 33, in which the natural gas and liquid are subjected to two or more mixing steps.

50. (Previously Presented) A method as claimed in Claim 49, in which an additional mixing step is carried out before the turbulent mixing step.

51. (Previously Presented) A method as claimed in Claim 49, in which an additional mixing step is carried out after the turbulent mixing step.

52. (Previously Presented) A method as claimed in Claim 50, in which one or more additional mixing steps are turbulent mixing steps.

53. (Previously Presented) A method as claimed in Claim 52, in which a second mixing step is carried out in a second contactor, located in a pipe extending from the venturi passage of the first contactor.

54. (Currently Amended) A method as claimed in Claim 53, in which the fluid mixture is separated into a gas phase and a liquid phase between the two contactors, the phase separation ~~preferably~~ occurring in an annular flow generator.

55. (Previously Presented) A method as claimed in Claim 53, in which fresh liquid solvent is added to the second contactor.

56. (Previously Presented) Apparatus for removing water from natural gas by bringing the natural gas into contact with a liquid including an absorbent for the water, comprising: a turbulent contactor in which the natural gas and liquid are subjected to turbulent mixing conditions thereby causing the water to be absorbed by the absorbent; and a separator for separating a natural gas phase with reduced water content and a liquid phase including the absorbent and absorbed water; and in which the turbulent contactor comprises a gas inlet, a liquid inlet, an outlet leading to a venturi passage and a tube extending from the outlet back upstream, the tube being perforated and/or being spaced from the periphery of the outlet.

57. (Previously Presented) Apparatus as claimed Claim 56, in which the tube is located in a vessel, the vessel including the gas inlet, the liquid inlet and the outlet.

58. (Previously Presented) Apparatus as claimed in Claim 56, in which the separator includes a hydrocyclone.

59. (Previously Presented) Apparatus as claimed in Claim 56, in which the separator includes an absorbent regenerator.

60. (Previously Presented) Apparatus as claimed in Claim 56, in which the contactor includes two or more contactor steps.

61. (Previously Presented) Apparatus as claimed in Claim 60, in which the second turbulent contactor is located in a pipe extending from the venturi section of the first contactor.

62. (Currently Amended) The method of using ~~use of~~ one or more turbulent contactors for absorbing water from a natural gas stream including contacting the gas stream with, ~~in which the gas stream is brought into contact with~~ a liquid including an absorbent ~~for water~~, in at least one of the turbulent contactors wherein the at least one turbulent contactor comprises ~~comprising~~ a gas inlet, a liquid inlet, an outlet leading to a venturi passage and a tube extending from the outlet back upstream.

63. (Currently Amended) A method of use as claimed in Claim 62, in which ~~the~~ a second turbulent contactor is located in a pipe extending from the venturi section of the first contactor.